TWISTED PAIR TRANSMITTER

KE 0202CT2(w-type)

Instruction Manual

Thank you for your purchase of this product

Please be sure to read this manual completely prior to usage of product

Ver 2.5E

RGB Interface Cable

Use of a RGB interface cable longer than 3 m (9.84 feet) is not recommended.

For U.S.A

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

For CANADA

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Usage Cautions

Please be sure to read this manual prior to usage of product. After reading,keep it in a place near the equipment where it can be easily referred to.

Warning ⚠	• If this symbol is ignored death or serious injury may occur.
Caution ⚠	• If this symbol is ignored injury or property damage may occur.

Explanation of symbols

● Shows caution (including warning)

● Shows an action that should be done.

General caution

Keep hands clear

General indication

Unplug the power cord

● Shows an action that should not be done.

Prohibited

Do not expose to water

Do not use in a wet place

Do not attempt to take apart

Do not touch

Do not touch with wet hands

● We are not responsible for damages to an image or sound transmitted by our product caused by the products malfunction or any other outside factor.

⚠ Warning

◆Do not continue to use this product if any of the following occurs

※It may cause fire or electric shock

- If you smell a strange odor or smoke.
- If water or a foreign object gets inside the product.
- After dropping the product.
- If the power cord is damaged. (exposure of core cable, severed cable)

■If any of the above should occur immediately turn the power off and unplug the power cord. Contact the manufacturer or dealer who installed this product for repair.

◆Do not place on an unsteady surface.

■Do not attempt to repair the product by yourself under any circumstances.

※Do not place on a sloped or unstable surface.
It can cause serious injuries.

◆Do not use this product except for the specified voltage and current (AC100～240V).

※May cause fire or electric shock.

◆Do not stick any foreign objects into the product.

※May cause fire or electric shock.

◆Do not allow the product to get wet.

※May cause fire or electric shock.

◆Do not touch the power cord during a thunder storm.

※May cause electric shock.

◆Plug the product into an outlet that can be easily reached.

※Unplug the product if trouble occurs.

◆Be sure to completely insert the power cord plug into the outlet.

※Short circuiting or the generation of heat may cause fire or electric shock. Do not connect many cords into one outlet.

◆Do not damage the power cord.

※May cause fire or electric shock.

- Do not modify the power cord.
- Do not pull or bend the power cord.
- Do not place a heavy object or this product on the cord.
- Do not place the power cord close to a source of heat.

Caution

◆Do not put this product in the following places.

※May cause fire or electric shock.

- Places where there is a lot of humidity or dust.
- Places where there is steam.
- Near places which generate heat.
- Places where water may come into contact with the product.

◆Turn off the power and follow all instructions , when connecting this product to other devices.

※Failure to use the recommended cables may cause generation of heat or fire.

◆Do not cover the ventilation holes.

※Doing so may cause the product to overheat, which can cause fire or damage to the product.

- Do not leave the product laying on its side or turn it upside down.

※Do not cover the ventilation holes or stick foreign objects into this product as it will cause damage.

◆Disconnect all cables before moving this product.

※The cables can be damaged and fire or electric shock may occur if not disconnected.

◆Do not place a heavy object on this product.

※Placing a heavy or oversized object on the product may cause injury as a result of it falling.

◆Disconnect the power cord when the product will not be used for a long time.

※ Disconnect the power cord for safety purposes and to lower energy consumption.

◆Unplug the product when servicing.

※Electric shock can occur even though the product is turned off as current is still flowing from the power cord.

◆Do not unplug the device by pulling on the power cord.

※Pulling on the power cord may damage the cord or cause a fire or electric shock. Please pull on the plug body.

◆Do not disconnect or connect the power plug with wet hands.

※May cause electric shock.

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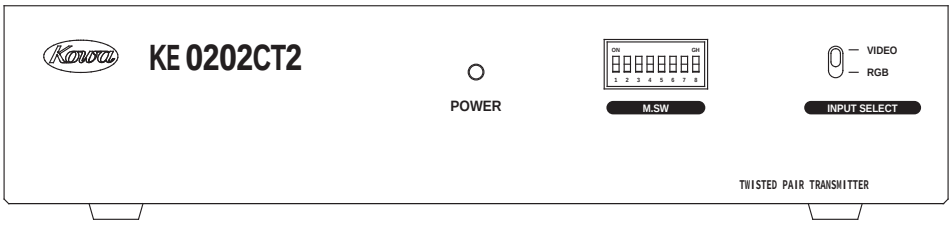
Appendix

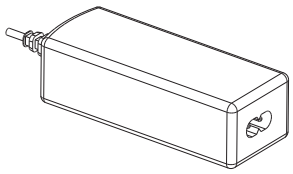
1. About this product (KE 0202CT2(w-type))

1-1. Product and accessories

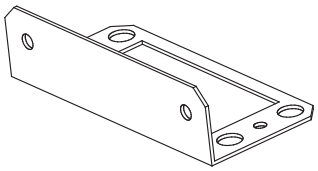
Please check that you have the accessories and items shown.



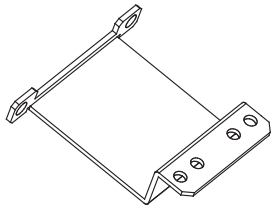
Main unit of KE 0202CT2(w-type)



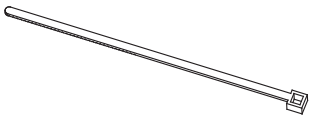
AC adapter



Angle mounting kit×2

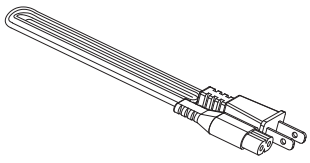


Cable mounting kit

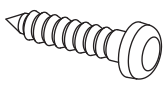


Fixing band×2

Instruction Manual（This booklet）



Power cord



Wood screw×4
（Screws for underdesk, wall or ceiling）

1-2. General information

The products, KE 0202CT2W (w-type)/KE 0101CR-BW, are a transmitter and receiver for long distance transmission of a wide band signal such as a computer, high definition TV or a composite signal through a twisted pair cable (CAT5 e or CAT6).
They also have the function of long distance transmission of stereo sound and RS232C serial data.
The minimum recommended transmission range is 10m(32.8ft). The maximum recommended transmission range depends on the refresh rate and resolution. The transmission range (when using our recommended cable) is as follows.

Name of signal	Transmission range
Audio signal/serial data	: 10～300m(32.8～984.2ft)
Composite signal	: 10～300m(32.8～984.2ft)
YPbPr／YCbCr	: 10～300m(32.8～984.2ft)
640×480	: 10～200m(32.8～656.1ft)
800×600	: 10～180m(32.8～590.5ft)
1024×768	: 10～150m(32.8～492.1ft)
1280×1024	: 10～120m(32.8～393.7ft)
1600×1200	: 10～100m(32.8～328ft)

Recommended cable : OKTP-E5-P-AWG24x4P
(OKANO ELECTRIC WIRE CO.,LTD)

2. Connection

2-1. The cautions and warnings.

◆Cautions

- Use the recommended cable for this product for best results.
  (OKANO ELECTRIC WIRE CO.,LTD: OKTP-E5-P-AWG 24x4P)
  When a cable other than the recommended cable is used, make sure that the characterisitcs and functionality of the cable is fully understood before use.
- When cable length is longer than the recommendation distance indicated in the "product outline", quality of the image may deteriorate.Please note that use beyond the recommended distance will require outside support.
- If a twisted-pair cable is laid near a power supply line with a lot of noise, the image may flicker. In this case, run the twisted-pair cable away from the power supply line.
- If the product is connected to an AC power supply with noise, the image may flicker. In this case, use an AC wall socket type noise filter.
- Use the cable mounting kits, when weight will be applied to the twisted pair connectors of the transmitter. **(Please refer to "2-3. Cable mounting kit (Twisted pair transmitter)")**.

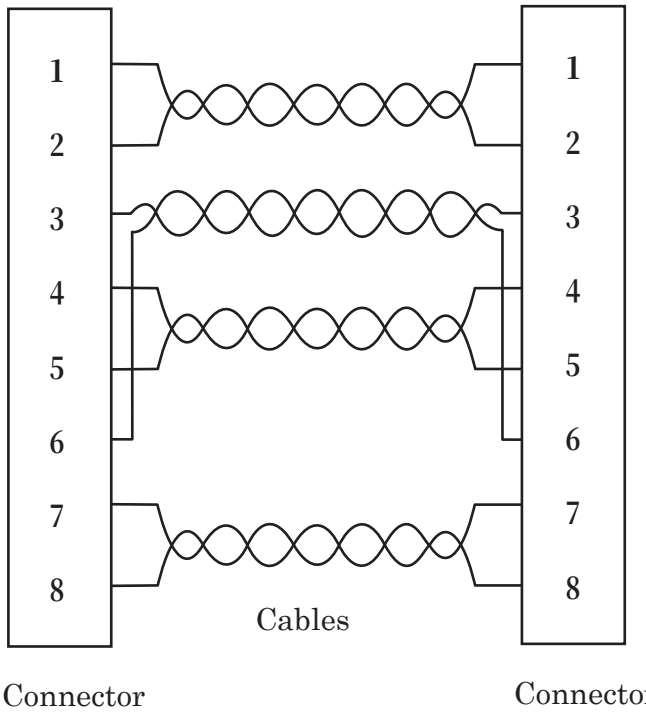
◆Warnings

- Do not connect any unauthorized product to the extension input/output connectors of the twisted pair transmitter or receiver, as it can cause damage to the products. Kowa is not responsible for any damage or injury caused as a result of improper use.
- Turn off the transmitter, receiver, and any product that is connected to the devices when removing or installing twisted pair cables. Failure to do so can cause damage or failure of the products.

2-2. Preparation of a cable

A CAT5e or CAT6 cable is used to connect the twisted pair transmitter and receiver.
The transmitter and receiver are connected straight through as shown in the diagram below.

※ Please keep the combination of the pair lines as follows. If the combination of a pair line is incorrectly installed , there is a possibility that the quality of the image may deteriorate.

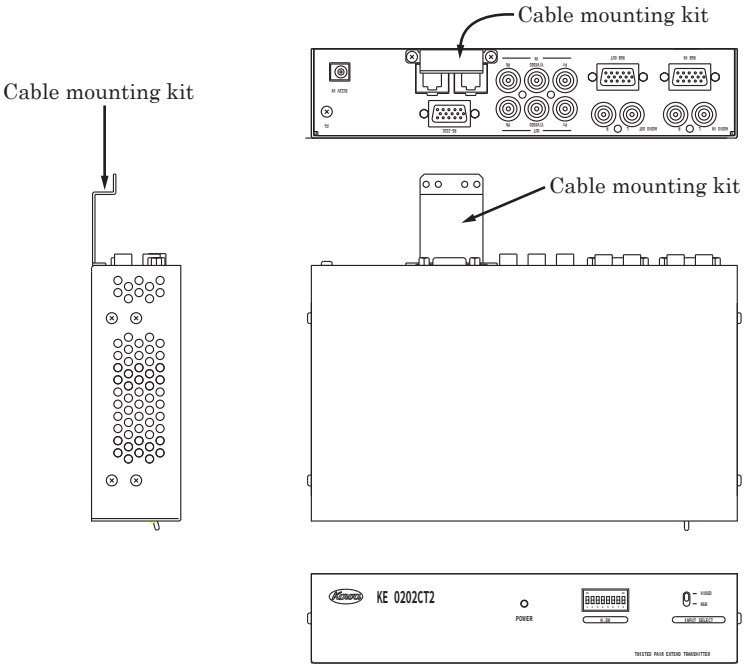


1,2···pair 1
3,6···pair 2
4,5···pair 3
7,8···pair 4

2-3. Cable mounting kit (Twisted pair transmitter)

A mounting kit for the twisted-pair cable is enclosed with the twisted pair transmitter. Use the following diagram to attach the mounting kit.

Diagram for attachment



2-4. How to connect

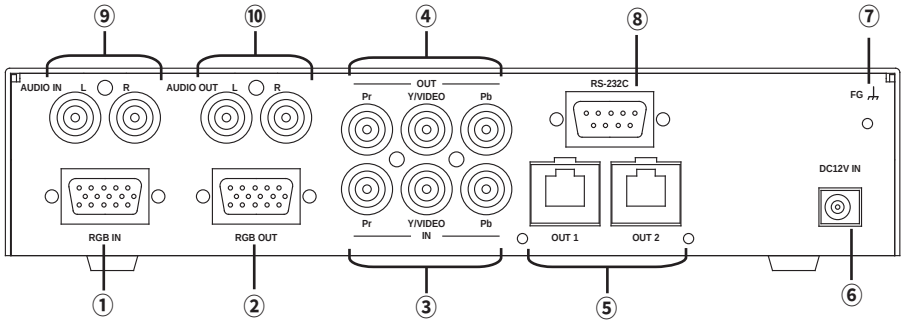
Connect the receiver according to the following procedures.

Ⅰ. Check that all of the devices (PDP(Plasma Display Panel), video, a DVD player, PC, display, etc.) to connect are turned off.

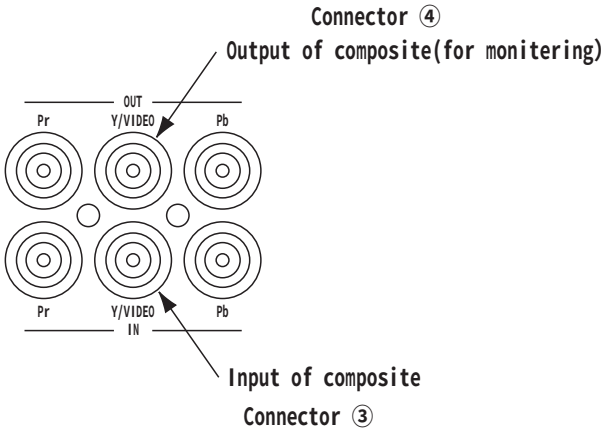
◆ **Warning**

- Even when the PDP is turned off, power is being supplied to the twisted pair receiver. Be sure to unplug the power supply cable of the PDP.

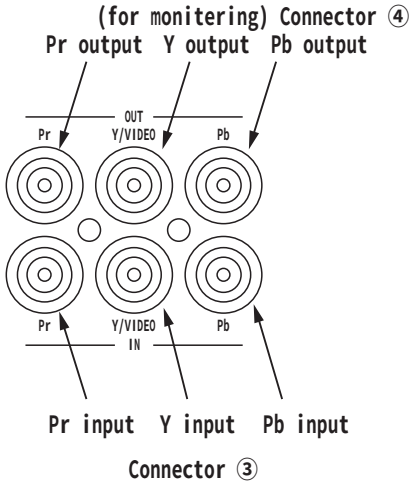
Ⅱ. Refer to the following diagrams when connecting cables to the twisted pair transmitter.



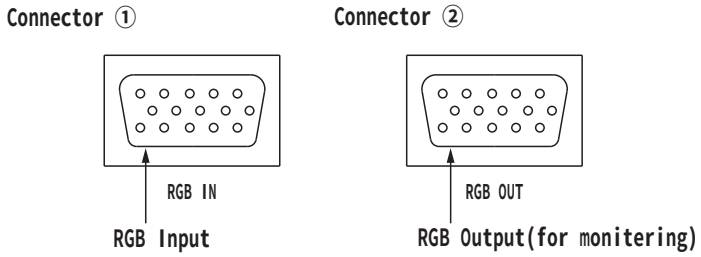
a). Composite signal



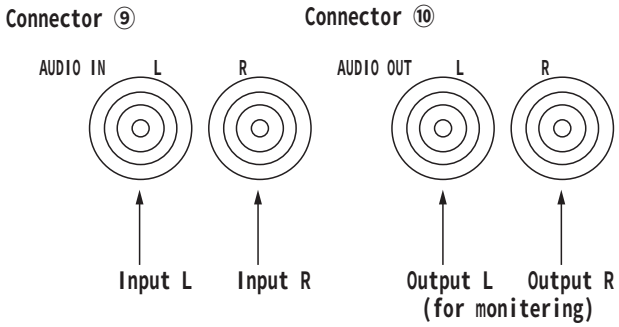
b). Component signal



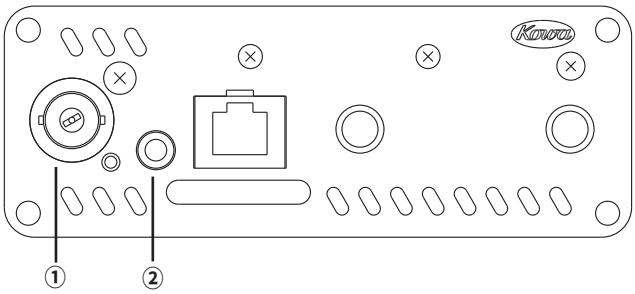
c).RGB signal



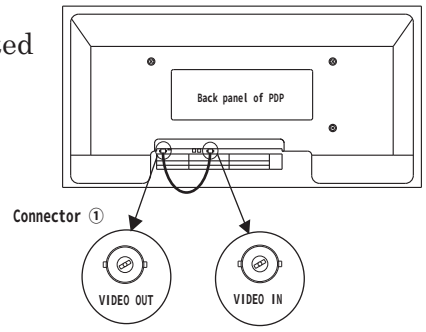
d).Audio signal



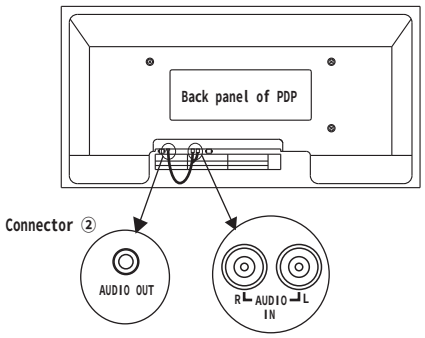
Ⅲ.Refer to the following diagrams when connecting cables to the twisted pair receiver.



a).Composite signal
Connect the "VIDEO OUT "of the twisted pair receiver to the "VIDEO IN" of the PDP.

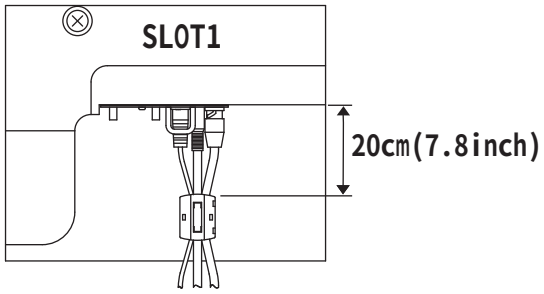


b) . Audio Signal
Connect the "AUDIO OUT"
(Stereo mini jack) of the twisted
pair receiver to the "Audio In" of the PDP.



Ⅳ. Connect the twisted pair transmitter and receiver with the correct twisted pairs using CAT5e or CAT6 cable. **(Refer to the diagram in section 2-2)**

※ When connecting cables to the connectors,be sure to attach a ferrite core to the cables according to the diagram below. Attach the ferrite core within 20cm(7.8inch) from the bottom of the receiver.



Ⅴ. Attach the CAT5e or CAT6 cable to the twisted pair transmitter with the cable mounting kit **(refer to the diagrams in section 2-3)** . Attach the cables of the twisted pair receiver to the main body of the PDP and make sure that the twisted pair connectors are not carrying too much weight.

Connection of the products is now complete. Turn the power of each product on.

※Please turn on the power of each product according to following process.
1.Turn on a transmitter,first.
2.Then,turn on a Plasma Ddisplay.

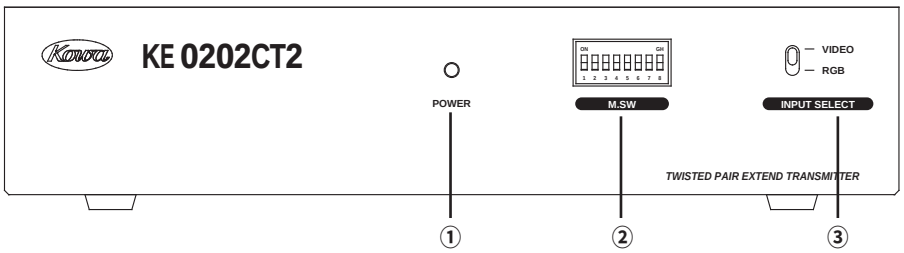
Please refer to section "4" for operation and adjustments.

※ The enclosed AC adapter must be used for the transmitter.

3. Denomination and function of each parts

3-1. Function of the twisted pair transmitter

3-1-1. Front panel of the twisted pair transmitter



① POWER

After connecting the adapter cable the power will turn on and the power indicator lamp will light up.

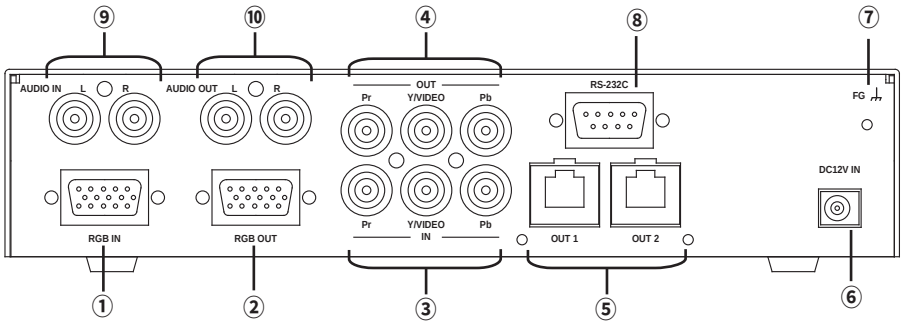
② M.SW

Dip switch No.8 switches between composite and component signals.

③ INPUT SELECT

This switch determines if the image output to Connector 1 and 2 is VIDEO or RGB.

3-1-2. Back panel of the twisted pair transmitter



① RGB IN
High density D-SUB 15pin : Connector for image input
This is the input connector for RGB signal (Not available for GonSYNC)

※ Please use a cable under 3m (9.84feet) in length when connecting.

② RGB OUT
High density D-SUB 15pin: Connector for image output: for monitoring
An RGB IN signal can be outputted through the RGB OUT connector for monitoring, regardless of the dip/toggle switch settings, as long as the transmitter is turned on (signal buffer requires power).

※ Please use cable under 3m (9.84feet) in length when connecting.

③ Pr IN, Y/VIDEO IN, Pb IN
RCA Pin jack: Connector for image input.
This is an input connector for component or composite signals.
For a composite signal use the VIDEO IN connector.

④ Pr OUT, Y/VIDEO OUT, Pb OUT
RCA Pin Jack: Connector for image output : for monitoring
(Pr, Y/VIDEO, Pb) IN signals can be outputted through the (Pr, Y/VIDEO, Pb) OUT connector for monitoring, regardless of the dip/toggle switch settings, as long as the transmitter is turned on (signal buffer requires power).

⑤ OUT1,OUT2
RJ-45 connector : output connector for twisted pair cable for extension.
This is connected with a CAT5e or CAT6 cable to the receiver.
2 points of distribution.

◆Warning
- Do not connect to any other receiver as it may cause fire or other damage.

⑥ DC12V IN
It could be plugged an 12V dedicated voltage adapter.

⑦ FG ⏚
Frame ground
Connect a ground wire to the transmitter.

⑧ RS-232C
Serial communication for RS232C (transmission only).
D-SUB 9pin (male) is necessary.
Uses a RS-232C Straight cable.
(Please refer to the appendix for details)

⑨ AUDIO IN
RCA pin jack: connector for audio input
The input connector for audio. (Stereo L,R)

⑩ AUDIO OUT
RCA connector : output connector for sound : for monitoring
An AUDIO IN signal can be outputted through the AUDIO OUT connector for monitoring, regardless of the dip/toggle switch settings, as long as the transmitter is turned on (signal buffer requires power).

4. Operation

4-1. Operation of the twisted pair transmitter

4-1-1. Setting a dip switch on the base

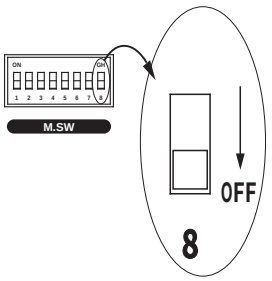
Two dip switches are installed on the base that allow terminal No. 4 and 11 of the transmitter. RGB IN/OUT connector to be set to loop through or ground.
Please refer to the diagram below for settings.

Dip Switch No.		Setting of high density D-SUB 15-pin terminal No. 4,11
1	2	
off	off	Loop through
on	on	Ground

※ The dip switches are set in the "Off" position when shipped from the factory.
※ Please switch both No.1 , 2 dip switches on the base when changing the setting.
※ Normally use the setting "loop through".In the event that pictures can not be seen on some monitors, set the dip switches to "ground".

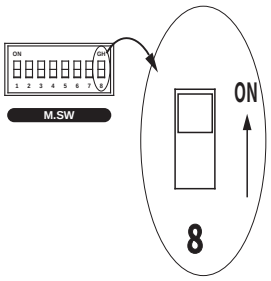
4-1-2. Choosing the transmitted image
Select VIDEO or RGB on the INPUT SELECT switch.

a). Transmitting a composite signal
Transmitter settings: Set the INPUT SELECT switch to VIDEO and M.SW switch No.8 to "OFF".



Receiver settings: Connect the VIDEO OUT to an expansion board with a composite IN terminal.
PDP settings: Set PDP to "INPUT2"**(Please refer to the instruction manual of PDP)**

b) . Transmitting a component signal
Transmitter settings: Set the INPUT SELECT to VIDEO
and M.SW No.8 to "ON".



PDP settings: Select "INPUT 1"and on the PDP screen menu, select "component"
from the "component/RGB" options **(Please refer to the instruction manual of the PDP)**.

c) . Transmitting an RGB signal
Transmitter settings : Set the INPUT SELECT switch to RGB.
※ M.SW No. 8 can be set to either On/Off

PDP settings: Select "INPUT 1"and on the PDP screen menu select "RGB"
from the "component/RGB" options. **(Please refer to the instruction manual of the PDP)**.

4-1-3. Mode switch settings

The M.SW switches can be set as follows.

Dip switch No.	A detail of setting
1	Reserved
2	〃
3	〃
4	〃
5	〃
6	〃
7	〃
8	Switching between composite (OFF) and component (ON) signals. **※ INPUT SELECT switch is only effective when set to VIDEO**

※ All M.SW switches are set in the "Off" position when shipped from the factory.

5. Installing the transmitter

The transmitter can easily be placed on a desk, etc. utilizing the attached rubber feet. For mounting, two angled mounting kits have been included.

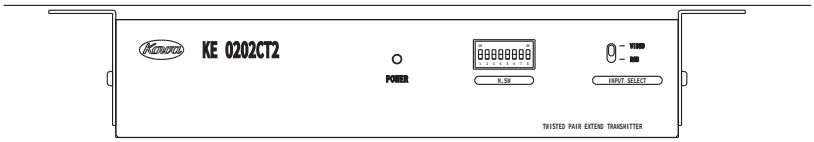
※ Remove the rubber feet from the main body if mounting with the angle mounting kits.

a) Installing on a flat surface
Installation on a ceiling, wall, under a desk can be done with the angled mounting kits.

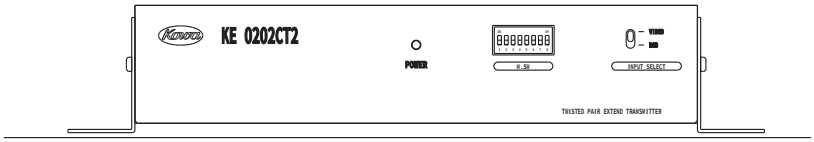
※ Using the four wood screws provided, attach the mounting brackets.

Installation Examples

① Attaching downward



② Attaching upward

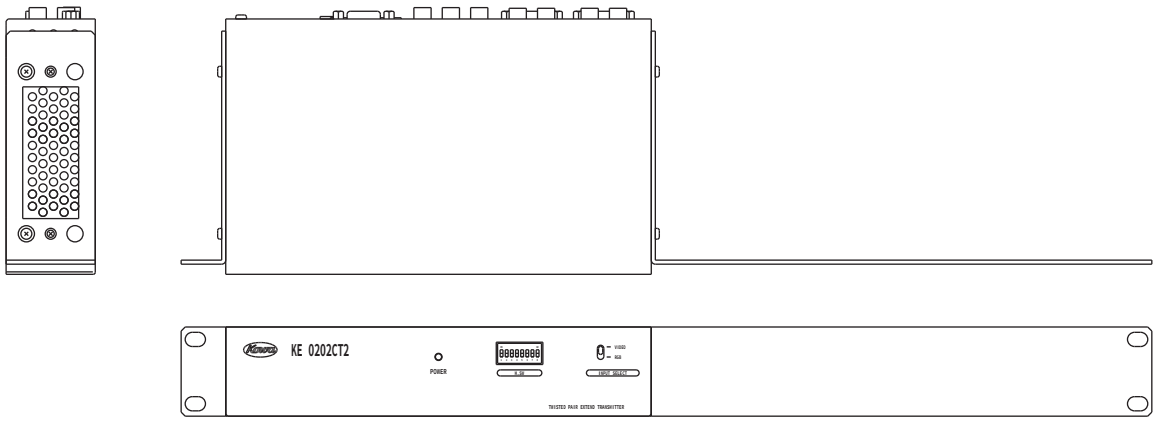


b) Attaching to a rack
1U x 1 rack mount set
1U x 2 rack mount set

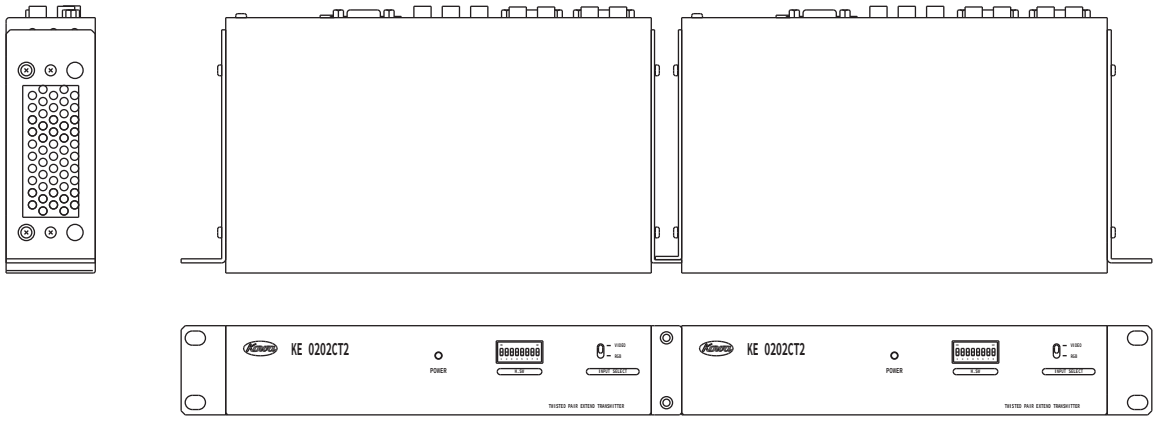
Using the above mount kits allow the transmitter to be attached to a rack. The mount kits are the same color as the casing of the transmitter giving the outside an aesthetically pleasing look.

The rack mounts are optional accessories. Contact us if you would like to place an order.

One unit rack mount



Two unit rack mount



Cautions:
The temperature inside the rack must not exceed 40℃.
Do not cover the ventilation holes of the transmitter.
Secure the mounting brackets to the transmitter and the rack using the supplied machine screws.
Loads other than the transmitter must not weigh on the mounting brackets.
The power cord and AC adapter must be used in the rating.

6. Specification

Model name	KE 0202CT2(w-type)
Number of input channels	Image (RGB, VIDEO) each 1 system, Audio 1 system or RS-232C 1 system
Number of output channels	Output for monitor (RGB, VIDEO, Audio) each 1 system, Output for extension 1 system (2 distribution)
Input connector	D-SUB 15pin : RGB, RCA pin jack : Component,Composite, RCA pin jack: Audio, D-SUB 9 pin : RS-232C
Output connector	D-SUB 15 pin : RGB, RCA pin jack : Component,Composite, RCA pinjack : Audio, RJ-45 connector : Output for extension
Interface cable for extension	Enhanced CAT5 cable , CAT6 cable
Image input and output signal	Analog Y/Y : 1Vp-p (75Ω), Pb·Pr/Cb·Cr : ±0.35Vp-p(75Ω), RGB : 0.7Vp-p(75Ω), HD·VD : TTL, VBS/VS : 1Vp-p(75Ω)
Audio input and output signal	Input: -10dBu 50kΩ, Output: -10dBu loading over 10kΩ
Temperature and humidity operating conditions	Temperature: 0~40℃ Humidity: 20~80%(no condensation)
Power source	A dedicated AC adapter DC12V
Power consumption	Approximately 10W
Power (AC adapter)	Input:AC100-240V 0.3A 50-60Hz Output:DC12V 1A
Dimension	W210×D126×H44 (mm) [W8.3×D4.9×H1.7(inches)] ※Dimension excludes connectors,etc.
Weigh	Approximately 1kg [2.2lbs]

7. Trouble Shooting

Problem	Please check the following	Reference
The image can't be seen on the PDP	● Is the power of PDP turned on ?	Please refer to a instruction manual of PDP
	● Is the lamp of the twisted pair transmitter lit-up? Is the power adapter cable properly connected to AC90-264V line and a twisted pair transmitter?	—
	● Is there a source that causes noise near the cables? A noise filter should be used in case of noise.	—
	● Is the CAT5e or CAT6 cable properly connected to OUT 1 or OUT2 of the twisted pair transmitter?	—
	● Is the CAT5e or CAT6 cable connected to OUT1 or OUT2 of the twisted pair transmitter carrying weight?	→2-3.Cable mounting kit (Twisted pair transmitter)
	● Is the cable properly connected to the RGB IN connector or (Pr,Y/VIDEO,Pb) IN connector of the transmitter?	—
	● Are the M.SW switches of the transmitter properly set?	→4-1-3. Mode switch settings
	● Is the INPUT SELECT of the transmitter properly set?	→4-1-2. Choosing the transmitted image
	● Is the LED (near side of Volume) IN connector of the receiver lit? Was it properly placed into the PDP slot?	—
	● Did you adjust a LEVEL /PEAKING of a twisted pair receiver?	—
	● Are the cables properly connected to the IN connectors?	—
	● Is the length of the cable within the recommended transmission range?	→1-2.General information
	● Are the cables wired correctly?	→2-2.Preparation of cable
	● Is a switch of input for PDP properly done? Switching should be done by an attached remote control.	Please refer to a instruction manual of PDP
The image of PDP is flickering or there is noise	● Is the twisted pair cable near the AC line? It should be far from the line.	—
	● Is there a source causing noise close to AC adapter of the twisted pair transmitter? A noise filter should be used in case of noise.	—
	● Is the CAT5e or a CAT6 cable properly connected to OUT 1 or OUT2 of the twisted pair transmitter?	—
	● Is the CAT5e or CAT6 cable connected to OUT1 or OUT2 of the twisted pair transmitter carrying weight?	→2-3.Cable mounting kit (Twisted pair transmitter)
	● Is the cable properly connected to RGB IN connector or (Pr,Y/VIDEO,Pb) IN connector of transmitter?	—
	● Did you adjust a LEVEL/PEAKING of a twisted pair receiver?	—
	● Are cables properly connected to IN connectors?	—
	● Is the cable properly connected to the IN connector of twisted pair receiver?	→1-2.General information
	● Is the length of cable within the recommended transmission range?	→4-1-2.Choosing the transmitted image
	● Is a switch of input for PDP properly done? Switching should be done by an attached remote control.	Please refer to a instruction manual of PDP
The image of a RGB signal can't be seen in MONITOR OUT of the transmitter	● Is the lamp of the twisted pair transmitter lit? Is the power adapter cable properly connected to AC90-264V line and a twisted pair transmitter?	—
	● Is there a source that causes noise close to the outlet of the twisted pair transmitter?	—
	● Is the cable properly connected to the RGB IN connector of the twisted pair transmitter?	—

The image of composite or component signals can not be seen in MONITOR OUT of the transmitter	● Is the lamp of the twisted pair transmitter lit? Is the AC adapter cable properly connected to AC90-264V line and a twisted pair transmitter? ● Is there a source that causes noise close to AC adapter of the twisted pair transmitter? A Noise filter should be used. ● Is the cable properly connected to IN connector(Pr,Y/VIDEO,Pb) of the twisted pair transmitter? ● Is the cable properly connected to OUT connector(Pr,Y/VIDEO,Pb) of the twisted pair transmitter?	— — — —
Sound can not be output from PDP	● Is the power of PDP turned on? ● Is the lamp of the twisted pair transmitter lit? Is the AC adapter cable properly connected to AC90-264V line and a twisted pair transmitter? ● Is there a source that causes noise close to the AC adapter of the twisted pair transmitter? A noise filter should be used in case of noise. ● Is the CAT5 or CAT6 cable properly connected to OUT 1 or OUT2 of the twisted pair transmitter? ● Is the CAT5 or CAT6 cable connected to OUT1 or OUT2 of the twisted pair transmitter carrying weight? ● Is the cable properly connected to the AUDIO IN connector of the twisted pair transmitter? ● Is the LED (near side of Volume) IN connector for the twisted pair receiver lit? Is it properly installed into the PDP slot? ● Is the cable properly connected to the IN connector of the twisted pair receiver? ● Is the length of cable within the recommended transmission range?	Please refer to a instruction manual of PDP — — — →2-3.Cable mounting kit (Twisted pair transmitter) — — — →1-2.General information
Sound of PDP has noise	● Is the twisted pair cable near AC power line? It should be far from the line. ● Is there a source that causes noise close to the AC adapter of the twisted pair transmitter? A noise filter should be used in case of noise. ● Is the cable properly connected to OUT 1,OUT2 of the twisted pair transmitter? ● Is the CAT5 or CAT6 cable be connected to OUT1 or OUT2 of the twisted pair transmitter carrying weight? ● Is the cable properly connected to AUDIO IN connector of the twisted pair transmitter? ● Is the cable properly connected to AUDIO OUT connector of the twisted pair receiver? ● Is the length of cable within the recommended transmission range?	— — — →2-3.Cable mounting kit (Twisted pair transmitter) — — →1-2.General information
Sound can not be output from monitor out of the transmitter	● Is the lamp of the twisted pair transmitter lit? Is the cable for the AC adapter properly connected to AC90-264V line and the twisted pair receiver? ● Is the twisted pair cable near the AC power line? It should be far from the line. ● Is the cable properly connected to AUDIO IN connector of the wisted pair transmitter? ● Is the cable properly connected to AUDIO OUT connector of the twisted pair receiver?	— — — —

Appendix

Ⅰ. Wiring diagram for RS232C

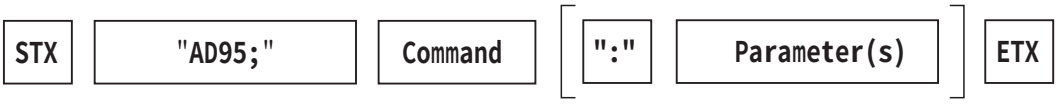
Connection between a computer and the transmitter
The RS232C straight cable of D-SUB 9pin can be used. (Both ends are female connectors)

Computer (D-SUB 9pin)		Transmitter (D-SUB 9pin)	
Pin No.	Name of signals	Pin No.	Name of signals
1	DCD(Data carrier detect)	1	NC
2	RXD (Recived data)	2	TXD (Transmitted data) ※No data sending
3	TXD (Transmitted data)	3	RXD (Received data)
4	DTR (Data terminal ready)	4	Shorted to 6
5	GND (Ground)	5	GND (Ground)
6	DSR (Data set ready)	6	Shorted to 4
7	RTS (Request to send)	7	Shorted to 8
8	CTS(Clear to send)	8	Shorted to 7
9	RI(Ring Indicator)	9	NC

Ⅱ. Requirement for communication

Signal level	RS-232C compliant
Synchronization method	Asynchronous
Baud rate	9600bps
Character length	8bit
Parity	None
Stop bit	1bit
Flow control	None

Ⅲ. Basic format control data(when using a twisted pair transmitter)



Bit position	Details	Bite length	Note
0	STX (0x02)	1	The transmission of control data starts with a STX signal.
1	"AD95;"	5	A semicolon (;) is required after "AD95".
6	[Command]	3	Refer to a list of "command".
9	":"	1	A colon(:) is unnecessary when a parameter is "None".
10	[Parameter]	Variable	There is a command which does not need a parameter.
Un-specified	ETX (0x03)	1	The transmission of control data ends with a ETX signal.

Ⅳ. List of "Commands"

Command	Parameter	Control details
PON	None	Power ON
POF	None	Power OFF
AVL	* *	Volume 00～63
AMT	0	Audio mute OFF
	1	Audio mute ON
IMS	None	Input select(toggle)
	SL1	Slot1 input
	SL2	Slot2 input
	SL3	Slot3 input
	PC1	PC input
DAM	None	Screen mode select(toggle)
	NORM	4:3
	ZOOM	ZOOM
	FULL	16:9
	JUST	JUST
	SELF	Panasonic AUTO

※1. When two or more commands are to be transmitted, transmit subsequent commands only after operating PDP completely by the previous command.

※2. No commands can be executed while the Power is OFF except for the "PON" command.

※3. Keep in mind that "AD95;" is required for the transmission of control data when controlling the PDP using the twisted pair transmitter/receiver.

※4. Any response from PDP can not be transmitted when using the twisted pair transmitter/receiver.

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※ Design and specifications are subject to change without notice.